RESEARCH PROPOSAL

Visual Analysis of Indian Cinema Using VFX

(With Special Reference to Select Cinema of 21st Century)

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Introduction

Cinema, or motion picture, is the art of moving images; a visual medium that tells stories and exposes reality. Cinema evolved, movies became longer, sound was added, Hollywood was built and color film became economical. Hitchcock lived, prospered, and died. Specials effects were created. Digital was invented. A century passed, and the motion picture industry still flourishes. Nowadays, cinema can be defined as the art of colorful moving images enhanced by voices, sounds, and music, still telling stories, still entertaining, and most importantly, still selling popcorn. (Leigh, 2014)

As the auteur theory outlines about a director's film, reflects the director's personal creative vision, as if they were the primary "auteur" (the French word for "author"). In law, the film is treated as a work of art, and the auteur, as the creator of the film, is the original copyright holder. Under European Union law, the film director is consider the author or one of the authors of a film, largely as a result of the influence of auteur theory. He further talks about championed filmmakers such as *Akira Kurosawa, Satyajit Ray, Alfred Hitchcock, Howard Hawks, and Jean Renoir* are known as absolute "auteurs" of their films. Another element of auteur theory comes from Alexandre Astruc's notion of the caméra-stylo or "camera-pen", which encourages directors to use camera as pen. An auteur can use lighting, camerawork, staging and editing to add to their vision. (Chaudhuri, 2013)

A movie includes dialogues, music, action and sound effects. A movie is made up of a story, called the script of the movie, which is written by a screenwriter. Then there is a producer who hires people to work on the movie; the actors who act in the movie and the director who directs the movie. The actors are required to memorize the words from the script, which they have to say in the movie, and they

also learn the actions that they are supposed to do in the movie. Then the director tells the actors what to do and a cameraman records the actions they perform and the dialogues they say with a motion picture camera. When filming is finished, an editor puts the moving pictures together as a story, within a set amount of time. Audio engineers and sound engineers record the music and the singing, which is then joined with the picture. When the movie is done, many copies of the movie are made by movie labs and put onto movie reels and sent to the cinemas. The movie is now ready to be played at the big screens. (Harrisryan, 2012)

As the Dependency theory outlines people in modern society depend on the media to comprehend and understand the world around them. In this, they see a complex web of links with the mass media and the public at large. The mass media is the collection of television, radio, print and Internet corporations that draw together to create one diverse information source. People have a need for more information in a broader sense dependent upon the mass media to fill this need for information. Despite people's dependency on the media, the dependency relationship is not all one way. The media depends on the public to choose its product to gather income. (Defleur and Ball-Rokeach, 1989)

Animation is an illusion of motion. It is the process of creating the illusion of moving images & model by displaying sequential images in rapid succession. A person who creates animations is called animator. He / she use various computer technologies to capture the still images and then to animate these in desired sequence. Information can be presented in a much more interesting way through animations. You can show animated texts, charts & even a movement of electrons which can be recorded by video. (Banik, 2013)

Kehr opines that history's first recorded animator is Pygmalion of Greek and Roman mythology, a sculptor who created a figure of a woman. One of the first commercially successful devices, invented by the Belgian Joseph Plateau in 1832, was the *phenakistoscope*, a spinning cardboard disk that created the illusion of movement when viewed in a mirror. In 1834 William George Horner invented the zoetrope, a rotating drum lined by a band of pictures that could be changed.

Kehr focuses on animator J. Stuart Blackton, who's *Humorous Phases of Funny Faces* in 1906, launched a successful series of animated films for New York's pioneering Vitagraph Company. Early illustrators-turned-animator was Winsor McCay, who's elegant, surreal *Little Nemo in Slumberland*, highest level of comic-strip art. (Kehr, 2017)

Jurassic Park's visual effects still look amazing today**.** It's an excellent movie that's still fun to watch, the dinosaurs are still scary as hell, and the visual effects still look spectacular. A film that would become a defining work in the history of visual effects. Jurassic World's dinosaurs are mostly CG, with just a few animatronic creatures. They used motion capture to create the raptors' performances. Film makers cast people from ILM as each dinosaur, gave them a tail and did motion capture. For Jurassic World, the team even used a newly developed muscle firing system to fire and squeezes the muscles at the right points.

Other milestones which gained popularity through animation techniques and CGI effects are Avatar, King Kong, Life of Pie to name a few.

In the future, the amount of data generated during the creation, distribution and reception of animated films is only going to grow. Films will move from HD to

Ultra-HD (4K) resolution, resulting in a multiplication of the amount of performance needed for rendering, and the amount of capacity needed for storage.

The spread of new animation techniques – like motion capture, which involves tracking the movement of objects and people to create more life-like characters – will also inevitably contribute to the data avalanche. Meanwhile, Lucas film has announced that the next generation of Star Wars films will use 48 frames a second rather than 24, signaling a new era for the film industry.

As these numbers increase, studios will depend more and more heavily on faster processors and cloud computing. The onus is therefore on companies like HP to continue supplying the industry with cutting-edge technology that will enable and drive the next wave of film animation. (Curtis, 2014)

Hence, the proposed study will provide a general knowledge of the history of cinema, visual effects and animation from its beginning to the present.

Operational Definitions

1. The term **"CGI"** is most commonly used to refer to 3D computer graphics used for creating scenes or special effects in films and television.
2. **Special Effects / Practical Effects:** An effect produced physically on set, without postproduction techniques.

   Types of Digital Special Effects

   - Facial capture
   - Performance capture
   - Digital frame rendering
3. A **Visual Effect** is that the assimilation of live-action footage and generated imagination to make realistic environments.

Commonly used software's for Visual Effects in films are 3Ds Max, Adobe After Effects, Boujou, MAXON, Cinema 4D, Autodesk Maya, Mocha, Nuke and Flame, PFTrack, SynthEyes .

Commonly used Visual Effects Techniques include Green screening, Motion Tracking, 3D Modeling, Matte Painting, Physical Simulator and Rotoscoping etc.

REVIEW OF PUBLISHED RESEARCH WORK

A literature review is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources, and as such, do not report any new or original experimental work. No study can be undertaken without reviewing and analyzing the literature available related to the field of study. Review of Literature is an important component of research by which multifaceted understanding of the phenomenon becomes the part of researcher's cognitive personality.

A literature review can be just a simple summary of the sources, but it usually has an organizational pattern and combines both summary and synthesis. A summary is a recap of the important information of the source, but a synthesis is a re-organization, or a reshuffling of that information. It might give a new interpretation of old material or combine new with old interpretations. Or it might trace the intellectual progression of the field, including major debates. And depending on the situation, the literature review may evaluate the sources and advise the reader on the most pertinent or relevant.

Literature reviews provides a researcher with a handy guide to a particular topic. With a limited time to conduct research, literature reviews give an overview or act as a stepping stone. For professionals, these are useful reports that keep the researchers updated with what is current in the field. For scholars, the depth and breadth of the literature review emphasizes the credibility of the writer in his or her field. Literature reviews also provide a solid background for a research paper's investigation. Comprehensive knowledge of the literature of the field is essential to most research papers.

Book Reviews

1. What is Cinema?

Bazin (2004) speaks that the cinema is being widely recognized as a serious and important field of study. The cinema is an idealistic phenomenon of playing an increasingly important role in this confrontation. Cinema owes virtually nothing to the scientific spirit. Today cinema even at its most elementary stage needed a transparent, flexible, and resistant base and a dry sensitive emulsion capable of receiving an image instantly. Muybridge, thanks to the imaginative generosity of a horse-lover, managed to construct a large complex device which enabled him to make from the image of a galloping horse the first series of cinematographic pictures.

Bazin wrote a thoughtful historical overview of the evolution of film language. The major tenet coming from this overview is that the jump from silent to sound cinema. Bazin's starting point for his historical overview is the silent period. Employing a stylistic and semi-auteur approach he groups all directors between the years 1920 to 1940 into two groups: one which bases their integrity in the image (the imagists) and another in reality (the realists). The imagists are broken down into two camps, those working with the plastics (lighting, decor, composition, acting) and other those working with the editing (the montagists). The realists do not distort time (like the montagists) or space (like the expressionists) but attempt to depict true reality. The montagists are also broken down into two camps, distinguished mainly by a time frame.

He further states that the jump from the silent to sound cinema did not give evidence to any immediate effects on shooting or editing styles. Editing style became more or less standardized. Cinema had reached the point where most

technical innovations were established (color, track, dolly, crane, zoom, sound, panchromatic film stock) and the next evolutionary advancement.

Hence, this book provides information on the essence and evolution of the language of cinema.

2. How to Read a Film: Movies, Media, and Beyond

Monaco (2009) in his book, states that Film and the electronic media have drastically changed the way we perceive the world. In the first place, film and television are general mediums of communication. On a more advanced level, film is clearly a sophisticated art, possibly the most important part of the twentieth century. This book suggests how film can be fit into the spectrum of the more traditional arts and attempts a brief survey of the development of the art of movies.

Film is a medium and an art, but film is dominant, the development of the electronic media records, radio, tape, television, and video has proceeded in parallel with the growth of film during this century. The relationship between film and media becomes stronger with each passing year.

Hence, the book has described in detail about film and media, science of film that how film operates on us psychologically, how it affects us politically.

3. Practicing Mass Communication In India

Raj (2009) in the book, states that media pays more attention to certain issues by overlooking others. This obviously affects public opinion and people by and large tend to adopt the message played up by media in order to priority set by the media. Audience in general not only learn about the public issues and other relevant matters through the media; they also educate themselves as to how much

importance to be given to issues or topics that media are transmitting. Media in most cases is setting the agendas for political and social issues through press conferences, press releases, press visits, advertisements, sponsorships and other various known or unknown sources.

Raj states that Film is one of the most powerful medium of mass communication. Films are considered on par with mass communicators or even motivators. Television is a dignified extension of film just as transistor was to radio. Thus, films are also known as cinema, Cinerama, cinemascope or cinematograph. It changed into a more comprehensive and popular term “cinema” or “saneema” (as is popular in illiterate masses).

He further says that cinema had its beginning in India almost at the same time as in other major film producing countries. The origin goes to the credit of two French brother photographers Louis Lumiere and Auguste Lumiere popularly known as Lumiere Brothers. Another French Pioneer who added magic to cinema was George Melies who actually revolutionized the cinema from static photoplay into “expressionism” by way of introducing elaborates stage sets and special effects.

The author discusses the period when cinema was in search of its own expression, narration or language. In Asia and particularly in Indian sub-continent the appreciation of cinema as an art, however, could develop after the golden period of fifties when hard-working like Himanshu Rai, Satyajit Rai, Mrinal Sen, Bimal Roy, V Shantaram, Raj Kapoor, Guru Dutt, and Mehboob Khan started producing neo-realistic social films which went on to be acclaimed as pieces of contemporary art by world cinema. Films like Pather Panchali, Mother India, Bandini, Awara, Do Ankhe Barah Haat, Saheb Bibe Aur Gulam opened new vistas in Indian cinema.

Hence, this book covers sociological and cultural perspective of different communication tools, agenda setting theory and develop cinema as an art form.

4. Beginning Film Studies

Dix (2010) in this book focuses closely on cinematic stylistic, film narrative, film authorship, film genre, film stars and the ideologies. A knowledge of conceptual shifts in 20th century film studies, analysis of film form and style, ideological dimensions of films and an awareness of key domains of film studies. Also describes and evaluate matters of mise-en-scene, editing and soundtrack. Cinema concerns, from genre's importance in film industry to film authorship in the digital era. Film has an authorial signature, belong not to director or screenwriter but instead to the producer.

Broadly speaking, the book in this period sought to

- Cinema as an art with traditional aesthetic form such as literature, painting, sculpture and music.
- Conceptualize the director, as a film's chief source of creativity and aesthetic quality.
- Make evaluative distinctions between functionally competent directors and those whose films are unified by strong artistic signature (auteur, French for 'author').

Hence, this book helps to present the complex landscape of 20th and 21st century film studies where cinema will increasingly challenged by other forms of visual effects.

5. Multimedia Communication and Journalism Research

Guha (2012) says that this book is a kind of sourcebook on the said subject of "Multimedia, communication and Journalism Research". An overview is provided about animation, multimedia artist and communication design. Besides, this publication also deals with practical aspects of multimedia research with focus on graphics, pictures, animation, video, audio and response time. Focus also lies on websites, graphics, animation, design and tutorials on teacher resources in multimedia.

He also states about early example of animation found in Paleolithic cave painting, camera rolling technique to change something in the scene. This idea was later known as stop-motion animation. Several films, among them *The Enchanted Drawing (1900)* and *Humorous Phases of funny faces (1906)* were film versions of Blackton's "lighting artist" routine, and utilized modified version of Melies early stop-motion techniques to make a series of black board drawings appear to move and reshape.

Guha talks about another French artist, Emile Cohl, morphing objects, such as a wine bottle that transforms into a flower and created a film in 1908 called *Fantasmagorie.* One such artist was WinSor McCay, a successful newspaper cartoonist, who created films such as *Little Nemo (1911), Gertie the Dinosaur (1914)* and *The Sinking of the Lusitania (1918).*

He further states about various techniques of animation like Traditional animation:

- *Full animation* refers to the process of producing high-quality traditionally animated films.
- *Limited animation* involves the use of less detailed and/ or more stylized

drawings and methods of movement.

- *Rotoscoping* is a technique, where animators trace live-action movement, frame by frame.

Stop motion:

- *Puppet animation* typically involves stop-motion puppet figures in constructed environment.
- *Claymation*, or plasticine animation uses figures made of clay to create stop motion animation.
- *Cut-out animation* is type of stop motion animation produced by moving two-dimensional pieces of material such as paper or cloth.
- *Silhouette animation* is variant of cut-out animation in which the characters are backlit and only visible as silhouettes.
- *Model animation* refers to stop motion animation created to interact with and exist as a part of a live action world.
- *Go motion* is variant of model animation to create motion blur between frames of film.
- *Graphic animation* uses non-drawn flat visual graphic material (photographs, newspaper clippings, magazines, etc) which are sometimes manipulated frame-by-frame to create movement.

Computer animation:

- *2D animation* figures are created and/ or edited on the computer using 2D bitmap graphics or created and edited using 2D vector graphics.
- *3D animation* are digitally modeled and manipulated by an animator.

Other Animation techniques such as Drawn on film animation, Paint-on-glass animation, Erasure animation, Pinscreen animation, Sand animation, Flip book.

Hence, this book is a kind of sourcebook on the said subject of Multimedia, Communication and various Animation techniques.

6. Film, Television and Radio production: Elements, Dimensions and Trends

Wadia (2014) in this book opines about the presence of manual and whole film making process. Aspects related to pre-production, production and post-production are dealt in detail along with their meanings and implications. Other aspects of film making, such as blocking, lighting, music, video, digital video, power sources, sound recording, shooting styles, still photography, character animation, etc. are also reflected upon. Crucial dimensions and aspects of cinematography and movie-making are described with focus on elements like crew, director, actor, editor and screenplay writer.

He says that film-making is the process of making a film, from an initial story idea through scriptwriting, shooting, editing and finally distribution to an audience. Typically it involves a large number of people and can take few months and several years to complete. Film making takes place all over the world in a huge range of economic, social and political contexts, using a variety of technologies and techniques.

Film-making consists of five main stages:

- *Development*: the script is written and drafted into a workable blueprint for a film.
- *Pre-production*: preparations are made for the shoot, in which cast and crew are hired, locations are selected, and sets are built.
- *Production*: the raw elements for the finished film are recorded.

- *Post-production*: the film is edited, sound effects, music and any computer effects are added, and the film is completed.
- *Sales and Distribution*: the film is picked up by a distributor and reached its audience.

He further states that film are produced by recording images from the world with cameras, or by creating images using animation techniques or special effects. Film is considered to be an important art form, a source of popular entertainment, and a powerful method for education. The visual elements of cinema give motion pictures a universal power of communication; some movies have become popular worldwide attractions, by using dubbing or subtitles that translate the dialogue.

The author also states that traditional films are made up of a series of individual images called frames. When these images are shown rapidly in succession, a viewer has the illusion known as persistence of vision. Motion picture films have had a substantial impact on the arts, technology, and politics. Thomas Edison introduced to the public two pioneering inventions based on this innovation; the Kinetograph, the first practical moving picture camera, and the Kinetoscope.

Wadis further talks about animation technique in which each frame of a film is produces individually, whether generated as a computer graphic, or by photographing a drawn image, or by repeatedly making small changes to a model unit and then photographing the result with a special animation camera. When the frames are strung together and the resulting film is viewed at a speed of 16 or more frames per second, there is an illusion of continuous movement Animation is very time-consuming and expensive to produce; although most animation studios are now using digital technologies in their productions.

Hence, this study covers elements related to the whole film process, traditional methods of photographing frame and animation.

7. Mass Communication Animation and Multimedia

Gandhi (2015) in this book says that animation is the process of creating motion and shape change illusion by means of the rapid display of sequence of static images that minimally differ from each other. Animators are artist who specialize in the creation of animation. Animation can be recorded on either analogue media, such as a flip book, motion picture film, video tape, or on digital media, including formats such as animated GIF, flash animation or digital video. To display animation, a digital camera, computer, or projector are used along with new technologies that are produced.

He also states that animation creation methods include the traditional animation creation method and those involving stop motion animation of two and three-dimensional objects, such as paper cut-outs, puppets and clay figures. Images are displayed in rapid succession, usually 24, 25, 30, 60 frames per second. Many TV shows today use animation and animation gives them that more of a unique look.

Gandhi says that Multimedia includes a combination of text, audio, still images, animation, video or interactivity content forms. Multimedia is usually recorded and played, displayed or accessed by information content processing devices such as computerized and electronic devices, but can also be a part of a live performance. The term “rich media” is synonymous for interactive multimedia. Multimedia presentations are viewed by person on stage; projected, transmitted, or played locally with a media player. A broadcast is a live or recorded multimedia presentation.

This book provides readers with an introduction to modern technologies for mass communication. Author focuses lies on videography and video equipment with highlights on coding and encoding techniques are described. Efforts are made towards understanding the science and arts of animation. A status report on contemporary global animation works is also given with select case studies. An analysis of animated cartoons and their evolution is also done.

Hence, the book gives an overview of emerging mass communication, animation, as well as the practical aspects of multimedia research in graphics, pictures, video and audio.

8. Aspects of Animation: Steps of Learn Animated Cartoons

Tan (2016) states that science and arts of animation technology and design is provided with a global perspective, focusing particularly on developments in Europe, America and Asia. The animated cartoons and their evolution have been described in a historical perspective. An animation is the illusion of movement created by showing a series of still pictures in rapid succession. In the world of computers, graphic software used to create this effect. Simple animation is as basic as an animated *GIF* file. A more complex animation could be of a human or alien face in a computer software game or animation of a space battle in a movie.

The book talks about various multimedia and animation designing applications and explore career opportunities present in the field of Animation. This publication is designed to serve the purpose of said subject areas of animation, cartoon and multimedia. It includes the most common uses of animation through cartoons and simulations, early phenomenon of motion and early

animation devices like the phenakistoscope (1832), zoetrope (1834), praxinoscope (1877), thaumatrope (1824) and flip book.

Tan also discusses about various techniques of animation which includes full/ limited animation, rotoscoping, live-action animation, stop-motion techniques consist of puppet, claymation, cut-out, strata-cut, Silhouette animation, model, go-motion, object, graphic, brickfilm and pixilation. Computer animation encompasses a variety of techniques such as 2D/3D. Other animation styles, techniques include sand, drawn on film, paint-on-glass, erasure animation, pinscreen and flip book animation.

Hence, this book teaches how to master the building blocks of animation, including text, images, and audio, video. Also gives a brief overview on various types and techniques of animation in films.

9. Animation: A World History

Bendazzi (2016) delves beyond just Disney, offering readers glimpses into the animation of Russia, Africa, Latin America, and other often-neglected areas and introducing over fifty previously undiscovered artists. Animation: A World History encompasses the history of animation production on every continent over the span of three centuries.

Volume I traces the roots and predecessors of modern animation, the history behind Émile Cohl's *Fantasmagorie*, and twenty years of silent animated films. Encompassing the formative years of the art form through its Golden Age, this book accounts for animation history through 1950 and covers everything from well-known classics like *Steamboat Willie* to animation in Egypt and Nazi Germany. This study provides knowledge about Disney animated films and the roots of modern animation.

Ph.D Research Theses

10. A Study on the Impact of Computer Animation on Children in Three Cities of Kerala (Calicut, Cochin & Trivandrum)

Sebastian (2010) states that Computer animation is the art of creating moving images via the use of computers. It is a subfield of computer graphics and animation. Increasingly it is created by means of 3D computer graphics, though 2D computer graphics are still widely used. Sometimes the target of the animation is the computer itself; sometimes the target is another medium, such as film. It is also referred to as CGI (Computer generated imagery) or CGC (Computer Generated Character) especially when used in movies. One open challenge in computer animation is a photorealistic animation of humans. Currently, most computer-animated movies show animal characters *(Finding Nemo)*, fantasy characters *(Shrek, Monsters Inc.)*, or cartoon-like humans *(The Incredibles)*. The movie *Final Fantasy: The Spirits Within* is often cited as the first computer-generated movie to attempt to show realistic-looking humans.

He also states about History of Animation before Disney. True animation cannot be achieved without first understanding a fundamental principle of the human eye: the persistence of vision. This was first demonstrated in 1828 is thaumatrope and the development of the motion camera and projector by Thomas A. Edison. Stuart Blackton, issued a short film in 1906 entitled *Humorous Phases of Funny Faces* where he drew comical faces on a blackboard, photographed them, and erased it to draw another stage of the facial expression.

He further states that before the advent of the computer animation; all animation was done by hand. Considering that each second of animation contains 24

frames (film), one can only imagine the tremendous amount of work that has to go into creating even the shortest of animated films. Computer Animation went through so much to get to where it is at today. It still continues to change rapidly today. As new, faster hardware and more sophisticated software become available at continually dropping prices, new standards are appearing almost every month. So this study gives an overview of computer animation and pioneers of early animation.

11. Hollywood Cinema – Perceptions of Indian Youth

Archana (2011) says that Cinema is a form of popular culture which is accelerated by the fusion of art and technology. With its profound vivacity, cinema has allowed breaking through the burdens of everyday life by becoming an artificial substitute for everything real. Cinema helps to materialize itself into an ideology in the world of art and entertainment. Movies are a rollercoaster ride that transcends people into a whole different world fresh out of somebody's imagination. Cinema is not just a standpoint to go out on a date, having fun or eating popcorn. Cinema viewing is much more beyond the word "entertainment". What bring us to films are our tastes for film.

12. Motion graphics in advertisements a study

Nourani (2013) states that motion graphics often incorporate video, film, animation, photography, illustration, typography and music. The boundaries of these related art forms are difficult to delineate, especially with multimedia works. A video or film of an actual moving object would not be considered motion graphics, unless the footage were integrated with design elements, such as type, shapes, or lines.

He explains about Pioneers of Animation through cave paintings found in Lascaux, France and Altamira, Spain which depicted animals with multiple legs to suggest movement. Attempts to imply motion were also evident in early Egyptian wall decoration and Greek vessel painting.

He further states the fundamental principle of the human eye: persistence of vision. Another early form of popular entertainment was the magic lantern involved the projection of hand-painted or photographic glass slides. First successful devices for creating the illusion of motion were the thaumatrope, Phenakistoscope consisted of two circular discs mounted on the same axis to a spindle. The zoetrope was a short cylinder with an open top that rotated on a central axis. The praxinoscope theatre, a large wooden box containing the praxinoscope. Zoopraxiscope, an instrument that project up to 200 single images on a screen to study animal and human locomotion.

Naurani talks about the advancements in digital technology have exerted a tremendous influence over subsequent generations of animators and commercial motion graphic designers all over the world. Early cinematic techniques that were used in experimental avant-garde film and movie title sequences became adopted in broadcast motion graphics, as television became a new medium for animation.

14. A Linguistic Study of Cinematic Genre (With special reference to Popular Disney Animated Cinemas)

Sharma (2015) in her research, proceed to study the history of cinema, cinematic genre and the genre present in Disney cinemas. Studying about cinema and the time in which they were created. The history of cinema establishes a concept of retrospective images of past few generations and their excellence. Cinema theory is

a collection of interpretative framework which is developed over time in order to deal with the way in which cinemas are made and received. Realism, Auteur theory, semiotics and structuralism, ideology theory, feminist film theory, cultural studies and cognitive theory are some of the identifiable theories in the history of cinema.

She also states that Cinema usually deals with machineries to record the moving images of life. The still photographs are combined to give illusion of continuous motion. There were four major film traditions developed: fictional narrative cinema, nonfictional documentary cinema, animated cinemas and experimental films. France, Italy and the United States were found to be the resident countries of film industries.

Sharma further talks about the growth of cinema. The development of blockbuster studio and the campaigning aimed at children; the special effects were intruded in cinemas in order to attract audiences towards theatre. The use of new technology in the modern cinema like the digital cameras expanded the postmodernism period. The new age of contemporary cinema was full of a political, historical, and totally based on the double standard genre. The different genre and the artistic elements like comedy, tragedy, action, fantasy and romance gave a new convention to Cinema.

She opines about animation and its various genres where animated cinemas are usually collections of illustrations which are photographed frame-by-frame and then played in a quick succession. This genre has depicted a fantastic world of fairy tales for children by the effects of imagination and creativity. However animation is a genre enjoyed and appreciated by all ages. Animation is commonly thought of as a technique, thus it has ability to span over many different genres.

She also states that there is some of the different sub-genre of animation. Among those very first is Anime, genre is from Japan. This sub genre consists of both hand drawn and computer generated animation. For example: *Ponyo, Spirited Away, Castle in the sky*. The animation sub-genre is animated children. These films belong to a young and specific age group. For example: *Aladdin, Fern Gully, Beauty and the Beast.* The animated musical films include large number of musical elements in the narrative. These are *Snow White, the Lion King, Beauty and the Beast.*

15. The Search for an Alternative Language of Cinema: Subversive Strategies in Contemporary Women Film Makers (A Study with Reference to Select Films of Aparna Sen, Kalpana Lajmi and Manju Borah)

Das (2016) in Chapter 2.1, 'Mapping the history of cinema' writes that "the filmic, is that aspect of the art of filmmaking which is concerned with the world around it while the cinematic deals more specifically with aesthetics and internal structure of the art and the word 'movie' stresses the existence of this form as an economic commodity". The French theorists made a distinction between film and cinema.

A reading through the book gives us an idea that the word 'cinema' is being used to refer to the idea of 'industrial and institutional aspects' of film making and the word film refer to the piece of art that is produced. Thus, films in the early period were viewed as a technical variation of theatre aided by new technologies.

Das further states that Films were also influenced by other contemporary art forms such as the Victorian melodrama or the principles of the photography. Between the years 1896-1912 films evolved from a side show stunt to feature length films. The years from 1912 to 1927 mark the era of the silent feature films. The period from

1932 to 1946 was the 'Golden Age' of Hollywood, earning unprecedented economic success.

She opines that Films were inspired by other forms of visual media such as postcards, stereographs and the theatre. The appeal of these films was based on visual spectacle, films less dependent on the cinematic way of storytelling but more on visual and narrative conventions. The cinematic is thus the variation of shots, cuts and editing, whereas the theatrical is the staged visual spectacle of sets, props and costumes.

Research Articles in Journals

15. A Case Study on Film Authorship: Exploring the Theoretical and Practical Sides in Film Production

Tregde (2013) states that Film authorship has been a topic of debate in film theory since the Cahiers du Cinema critics first birthed auteur theory. Andrew Sarris used this theory to categorize directors based on their level of artistic authorship, solidifying the idea that a director is the sole author of a film. Theory is explored through primary and secondary sources to give a background and understanding of the main arguments in authorship. Film authorship theories fall into one of three categories: auteur, writer, or collaborative.

He also states that classic auteur theory has commanded much of film scholar debate since the 1960s. An examination of film authorship should cover the evolution of authorship theory from the 1960s to the present. Feature films are never made by a single person. From the writer to the director to the studio executives, many ideas and hours of hard work go into collaborating on a film production.

He further states that filmmaking process, film often aligns with a more collaborative form of authorship than other artistic media. While some films are recognized for their directing or writing style, their true authorship lies in the intentionality of the collective that produced the final product. At its heart, auteur theory promotes the director as the author of a motion picture. Behind every movie lies a director with a vision. This is why the French critics were so obsessed with filmmakers like Alfred Hitchcock because of his tendency to add personal expression throughout his filmography.

16. Animation Trends in Education

Xiao (2013) states that Animation is playing more and more important role in the classroom with the advent of computers. Lots of content have been developed for various disciplines or professional trainings. From picture galleries to complicated numerical simulations, animation provides us a complementary learning experience. The traditional education methods usually lacked effective approaches of illustrating an intuitional and clear content, while animation can compensate through the use of new software and hardware techniques. The most common animation content is developed by using either Flash or Java based technologies. Thus, we focus on the animation content in the classroom in this survey. The animation content in the classroom can be classified in three main types:

- Expositive: the users watch the expository content on screens;
- Interactive: the users can interact with the content at a higher level;
- Quizzes: the users are tested on a specific content.

17. A New Method of 3D Facial Expression Animation

Sun and Ge (2014) state that animating expressive facial animation is a very challenging topic within the graphics community. Facial animation is one alternative for enabling natural human-computer interaction. Computer facial animation has applications in many fields. For example, in the entertainment industry, realistic virtual humans with facial expressions are increasingly used. In communication applications, interactive talking faces not only make the interaction between users and machines more fun, but also provide a friendly interface and help to attract users.

They further say that Facial expression analysis and synthesis are an active and challenging research topic in computer vision, impacting important applications in areas such as human-computer interaction and data-driven animation. We introduce a novel MPEG-4 based 3D facial animation framework and the animation system driving by FAP that produced from camera videos.

18. Child Education through Animation: An Experimental Study

Islam, Ahmed, Kabirul and Shamsuddin (2014) state that it's time to adapt students with interactive learning system so that they can improve their learning, catching, and memorizing capabilities. It is indispensable to create high quality and realistic leaning environment for students. Visual learning can be easier to understand and deal with their learning. We developed visual learning materials (an overview of solar system) in the form of video for students of primary level using different multimedia application tools.

Interactive learning means computer-based learning system which response to the students' actions by presenting contents such as texts, graphics, animation, video, audio etc. Multimedia Technology can help to create high quality

learning environments especially for students through, different medias like texts, graphics, sound, animation etc.

19. The Role of Motion Graphics in Visual Communication

Shir and Asadollahi (2014) opines that human being has always been looking for having an intellectual connection with other people; and, for this goal, with regard to his need at every time period, he has chosen an appropriate method for communication; once by means of the paintings on cave walls, and once by means of computer. On this path, the magic of motion has always been attractive for human and helped him have a better communication with his environment. Nowadays, the art of animation is considered as a powerful and effective factor in the process of communication; and this art finds a new aspect every day. Regarding the growing development of media in today's world, the necessity of familiarity with a new tool called motion graphics is becoming obvious for more effective communication.

Author aims at considering different techniques, methods, and background of motion graphics so that it will introduce this art and also evaluates its role in increasing the attraction of audiences and effectiveness of the conveyed message in the process of visual communication. Due to the importance of the subject, the analysis of the role of motion graphics as a new branch of graphic design in increasing the effectiveness of visual communication is the aim of this research paper which is accomplished through descriptive-analytical method. The methods of motion graphics in communication, influential factors over motion graphics and visual factors of motion graphics, and the role of motion graphics in communication are some parts of this article.

20. A Study on Computer Graphics & Animation in Film Media

Kumar (2016) aims through this research article, to study the impact of computer graphics and animation in film media. In this fast developing information society computer graphics and animation has become the most important communication tool. The development of the film media and the progress of computer graphics and animation are intimately related to each other in many ways. The film media not only provide information and entertainment, but they also provide directly and indirectly many opportunities to the unemployed people in India.

He states that every year, thousands of films are released with computer graphics and animation. Multibillion film projects are now very common in India. Computer graphics and visual effects are now becoming the part of all cinema projects. Even though 3D animated film and ordinary commercial film has differed, the visual effects are common. Many famous Indian film directors have used visual effects to communicate their dream effectively. Computer graphics have impact on the target audience, fuel to our knowledge, attitudes, and behaviors.

He further says that 3D, Animations, graphics are inevitable resources in the creative industries. Advertising on Television, Dailies, and other electronic media at present fully depended upon the computerized format. The main aim of this research paper is to study and analyze the impact of computer graphics and animation in the main stream cinema. This paper also analyses the communicative aspects of computer graphics in the film media.

Articles in Journals

21. The Importance of Animation as a Visual Method in Learning Chemistry

Soika, Reiska and Mikser (2010) examine the differences in students' motivation and learning outcomes as resulting from two different teaching methods. For the first group visual material was presented in a traditional paper form. For the second group the material was presented via the computer animation. We examined what kind of concept maps were created by the students before and after studying process and what kind of differences were between the knowledge tests before and after the learning.

They further opine that the results were assessed by the changes between the results of the knowledge tests and concept maps. While we were looking at the concept maps, created after animation, we saw a visual similarity (which did not exist before the learning process). Comparing the concept maps, which were made after studying from the paper or the animation, we could see changes in the structures. By their structure, concept maps of the animation-learned students had become more similar to each other. After analyzing individually made concept maps, we created concept maps of the groups. We could notice change of centralities and structures of the maps after the studying process. This study confirmed that teachers should use visualization tools such as animations-purposefully during the learning process.

22. The Use of Digital Effects in Science Fiction Cinema and Interstellar (2014) Movie

Ekinci (2015) states that it is difficult to define science fiction. The limits of science fiction are uncertain. Science fiction genre is generally correlated with

technology. Fictional and fantastic elements are found in the basis of science fiction. However, the topics of science fiction may change. Movies about space interest the audiences every time. Especially, space theme has been used since the movie of George Melies *A Trip to the Moon* (1902). Technology is used in the most intensive in science fiction genre. In this context, the use of digital effects is an important research area in science fiction cinema. It is a true that academic studies held on science fiction are less in our country and in the world.

In this study, the use of digital effects will be examined in science fiction cinema. The film of Christopher Nolan *Interstellar* (2014) movie, which is a popular product of this genre, will be analyzed. In study, the influence of use of effect is tried to reveal in science fiction cinema**.**

23. The Future of Animation More Realism and Immersion

Römpötti, Harri (2016) states that the history of animation is longer than the history of live action cinema. In fact, the earliest moving images were already animated, before the invention of photography. Digital technology has united animation and live action into a seamless amalgam, seen especially in mainstream superhero movies. Digitalization has created jobs in the movie, television and game industries. It is already possible to create photorealistic scenery and objects with digital animation and replace actors when necessary. Soon it will be possible to create virtual actors and reanimate the stars. The next step for the development of digital animation is virtual reality, which has already had its first commercial breakthrough.

Theoretical Framework

1. Film Genre:

Grant (1977) in this book says that Film genre is a type of aesthetic framework in cinema and in filmmaking set-ups. It is an illustration of the type of technique in a film that both attracts and caters to the audience or group or individual's desires who serves as a component to a gathered spectator to a particular motion picture even to a Television screen viewing public or person's varied tastes to a certain movie. Film genres can often turn or may drive a movie goer to become interactive to a certain film that he or she watches.

The proposed theory establishes that Film genre is a spice and a theme to a movie that makes it more likeable, compelling, and unforgettably successful over the years. Film genre is seen as an icing to a "cake" of every motion picture that anchors and grips like an adhesive substance to the movie audience's emotions and points of view and sentiments in their very own personal lives.

Defining what the category this movie falls into, the bases of the film that is initially categorized is what 'Film Genre' is, bringing in interest to the spectators and to keep track of which is the best preferred concept – thriller/horror, rom-com, sci-fi, Action Thriller etc.

2. Apparatus Theory:

Rosen (1986) includes that Apparatus Theory is a model of spectatorship and institutions. It argues that cinema is ideological (based on ideas) because the films are created to represent reality. This means that because film is created to illustrate different ideas, everything has meaning - from the camerawork to the editing. It

argues that ideology is not imposed on cinema, but is part of its nature (through the viewer) and it shapes how we think.

In bringing out the film-spectator relationship, apparatus theory is also one such theory that explains the relationship. The cinema being the absolute imagination that other forms of Arts.

The theory provides a perspective to the researcher which defines cinema as 'prerecorded view of the object' where there are parts in which there is absence of reality. The process of perception originates from the spectators point of view, the spectators becomes the projects, receiver and also the camera that recorded the view point.

In conclusion, this theory is the central position of the spectator/ viewer within the perspective of the text is also ideological - it is a reproduced reality and the experience of cinema influences the viewer on a deep level.

3. Amateur Theory:

Zimmerman (1995) says that storytelling in film has never been an activity confined to the domain of the professional movie maker. Ever since the introduction of small-gauge equipment in the 1920s, numerous amateur 'lone workers', independent-minded collectives, and more leisure-oriented clubs have attempted to create fictional worlds through film. This is the genre that mirrors the same techniques of filmmaking with the principal aspect being the amount of exposure that needs to be laid out for the audience. The filmmakers from the cinema industry can make daily ordinary lifestyles even larger than life with ease.

The theory talks about amateur filmmaking which refers to the genre that unfolds itself with the rise of the very first animated cinematic motion picture.

In conclusion, finding out the innovative ways from the commercial productions that can make the audience watch the film till the end in an amateur film.

4. Mise-en-scène:

Gibbs (2002) states that the arrangement of everything that appears in the framing – actors, lighting, décor, props and costume – is called mise-en-scène, a French term that means "placing on stage."The frame and camerawork are also considered part of the mise-en-scène of a movie. In cinema, placing on the stage really means placing on the screen, and the director is in charge of deciding what goes where, when, and how. In Mise-en-scene motion pictures, the process of editing a movie material produced and accumulated from the rolls and clicks of a film camera is known to be a means of creating dull storyline narratives when it speaks of creating and reckoning a motion picture movie.

He further discussed about the main theory of Mise-en-Scene, which manipulate a shot by framing and arranging the cuts and wielding the shots in an artistic bearing to achieve a cinematic masterpiece.

5. Ethnographic Films:

Heider (2006) posits that Ethnographic films are non-fiction film where the focus is generally on non-Western people and cultures. It is associated with anthropology. It is the visual manifestation of anthropological practice organized into a lineal and moving media.

Ethnographic films developed as an aid for research. Technology has also revolutionized the filming and documenting of ethnographic films. The main technology, which led to this revolution are 16 mm cameras with tape recorders which are light and easy to carry around.

This study represent that ethnographic films were made primarily by people from the West about their cultures, outside their domains, the tendency to portray them as uncivilized and too simple ran high.

In conclusion, nowadays, channels like Discovery and National Geographic channel broadcast numerous documentaries about various cultures and people. Even if people cannot study the tribes on a first-hand basis, they can always refer to these films. They also generate a thirst for knowledge about non-Western cultures. Even though ethnographic films are still evolving along with technology, they have indeed revolutionized the way non-Western cultures are represented and perceived.

6. Auteur Theory:

Grant (2008) says that Auteur is the French word for author. Auteur theory holds that a director reflects the director's personal creative vision. The auteur is the one who originally holds the copyright, as they are the creator of the film. The theory believed that a bad director can make good films and a good director can make bad films. Alfred Hitchcock, Francois Truffaut, Satyajit Ray, Akira Kurosawa, Jean Renoir were few of the true Auteurs who believed in using their own style of Film Making as a signature and masterpieces.

The films made by these directors are used as academic studies that depicted the culture, status of living, economy etc. from that time that showed the real society in yesteryears and the influence it had on the directors was very clear.

The proposed theory establishes an important point that role of the director as an author needs expertise in the fields of technicality, signature style, and influence of personality but a movie simply cannot be made without a team effort from actors,

script, camera techniques and every single detail that needs to be appeared on the screen.

In conclusion, director is the primary force and creator of the film and making film is a unified effort of the team and each and every individual who work in that movie. This collective effort is what makes a remarkable movie and the Director is the one who brings the characters to life.

The theory puts a foreground to the present study to analyze various genres of films and film makers on certain filmmakers.

7. Subjective Cinema:

Rascaroli (2010) states that the general meaning of 'Subjective' is to express the personal taste or opinion. In film the subjectivism portrays what the character wants the audience to see. Otherwise called as Point of View, makes audience, camera, and character to see the same thing that describes and narrates from one single person's POV that can clearly depict the nature and the state of the narrator.

In the book author also talked about the purpose of filmmakers in creating Subjective Cinema is not only to entertain and meet revenues from it but also to meet the demands of the film viewing public thus making a certain film to become a subject. To show the precise effect the film camera acts as a bridge between the relationship of the film actors and the film audiences as pre-designed and conceived by the filmmakers, screenwriters and its film producers who are core brain and backbone of every framework of a cinema.

8. Cognitive Film Theory:

Allen and Turvey (2011) opine that Cognitive film theory emerged as a distinctive research paradigm in film studies in the mid-1980s. The relationship between film

and human psychology has always been a source of fascination for film theorists, and many writings in film theory are informed by the belief that film has a special relationship to human psychology. Historically, film theory has been preoccupied with the thought that the film camera is, in some sense, like the human eye, or that ways of juxtaposing images are like forms of thought. Film theorists have differed in the kind of mental processes they emphasize and whether or not the mimicked processes are rational or irrational.

Thus, study only talks about that film are like dreams or fantasies rather than simply like thoughts. The cognitive theorist seeks to understand how films engage our minds 'with the best available theory'.

9. Psychological Film Theory:

Young (2012) in his book has explained about the interaction of human minds with the environment they are surrounded which makes the human change in behavior such systematic study is psychology. Psychologists believe that films and cinemas that show the moving images on the screen to the people have deeper impact since the perception and the cognitive ability of human minds on seeing the moving image is much higher.

The early researchers and studies made on psychoanalytical studies goes were subjected to experimental research in the fields of imagination, attention, memory and emotions. But the results on the effects of film and cinema were yet to be seen but the contemporary mass media like TVs had a large influence.

Later with research on the impacts of watching certain themes and genres like sci-fi, horrors, thriller created a ripple in the psychological current where the cognitive ability and the knowledge used to analyze the scenes in the brain.

He further opines that films are fantastic tools for analysis across the arts and humanities; one can even find scientific regularity and argument, in science fiction films for example. Every day we are consuming signs and images, and the cinema is the temple for such things.

10. Animation Film Theory

Beckman (2014) states that Animating Film Theory is an ambitious collection of essays that seeks to outline the relationship between animation and film theory. The starting point for the realization of the collection stems from the marginalization of animation in film studies and is considered here in light of the recent interest in the digital. It is the shift toward the digital that brings animation to the foreground in thinking through not only film history and theory but also the moving image outside the domain of the cinema.

The book also speaks to the techniques of animation in the realms of design and graphics. Animating Film Theory proposes areas for possible new concerns or under-developed areas for research in animation.

The study focus is defined as uncovering how film theory discourse to date has engaged animation and how deeper engagement with animation can enrich contemporary film theory.

Research Gap

1. **Mapping Animation and Visual Effects in Indian Media and Entertainment Industry Opportunities and Threats**

Vats and Kumar (2013) mention that media has revolutionized the Indian film and entertainment industry. With the penetration of broadband services along with 3G

and 4G services the entire industry find itself a new inflection point. With more than 60 percent of smartphone and tablet users' base, the scale and impact of digital content user is huge. They believe that New Media wave is going to change the fundamental way of producing content, its disbursement and monetization in India.

The animation and visual effects industry in India has been standing out as truly newsworthy. India has emerged as major outsourcing destination for animation and visual effects.

The study reveals that the worldwide animation and VFX industry is growing rapidly. The animation and visual effects are frequently used in films, TV programmes, commercials, games and online education. Worldwide entertainment giants like Walt Disney, Fox Entertainment and Time Warner have been dynamic players in the Indian market. India's is becoming an animation and visual effects hub due to large workforce and cheap labour force with and advantage of an English-speaking, talented software engineers, a huge resource of creative talent, decent studios and low budgets.

2. The Effects of Digital Video Technology On Modern Film

Hu (2016) in this study states that since 1960s, with the emergence of digital technology, the whole film industry entered a new era. People all over the world can experience an unprecedented pleasant amazement and audio-visual experience when they are watching films. He further opines that digital technology has become a powerful tool, allowing many filmmakers who have the great passion to make their own movies easier than before.

This paper studied the evolution of the film industry under the emergence of digital technology from the perspective of interviews of some professional practitioners, history of film development and film industry economics. First of all, the research addresses the current situation of film industry, which involves every link of the film industry such as production, distribution etc. We move then to find the fundamental changes hiding inside the industry to learn that what digital technology really means to film industry.

Hu also adds that advanced technology brings various possibilities to the future of the film, and studying the history of film industry, firstly, helps us to gain a full picture of digital technology, and secondly, promotes analysis of the new form of American film industry and even the world's film industry after total digitalization.

The study overall addresses the impact of new digital technology on film industry. The present study is quantitative in nature whereas, this proposed study is qualitative in nature as it is a case study and moves around selected films studied in specific frame.

The proposed study will focus on the advance technologies of visual effects used in cinema through certain parameters from the time period 21st century. Cinema goes through the rigorous process of visualisation, storyboarding, sound effects, light effects, character modelling etc to create the final film. Each of these areas is critically important. But the one area that has taken the film industry by storm over the last the years is visual effects, commonly known as VFX which is specifically dealt here.

Motivation

The world of cinema has always inspired me for many reasons. As a student of Multimedia and Animation I always tried to observe how technological advancements in the arena of cinema add value to the content of films. Introduction of VFX technology in cinema have proved boon to the Indian filmmakers as well as Indian film viewers as they are witnessing something different and innovative out of the common. The proposed study will try to examine the use of VFX and new techniques which give an essence and flavor to cinematic frame.

Justification

The proposed study will focus on the innovative trends used in filmmaking in digital age. It is been observed that much studies have not been done in this area which talk about the usage of Visual effects, motion capturing techniques, sound effects, digital graphics and CGI in fiction films in India. This study is an effort to bring out how these techniques give strength and power to the simple films made by Indian filmmakers and take them to the next level.

Relevance

The present study examines a very relevant subject of film studies wherein the researcher will put forth the use of innovative tools and techniques of VFX in making of fiction films. The study will be useful for the upcoming Indian researchers, academicians, budding and professional filmmakers as it closely observes the growth and development of Indian cinema incorporating these technologies.

Objectives:

1. To observe how digital technology is driving the next wave of Indian cinema.
2. To study Indian filmmakers perception towards the use of visual effects in cinema and the indicators of new technologies of visual effects which give strength to cinema in the 21st century.
3. To visualize the growth and expansion of Indian cinema with the use of VFX technology.

Hypotheses:

- H_1: Digital technology, such as computer generated imagery (CGI) has been a growing trend and is increasingly used in conjunction with not only animation, but also with live action films.
- H_2: Use of Visual FX has given new dimensions to Indian cinema in digital age and has modified and customized the world cinema at a large level.

Plan of work and Methodology

- **Method of Research: Content Analysis**
  This study is a content analysis of selected 10 films incorporating the technical advancements using visual effects techniques.
- **Nature of study: Qualitative**
  This study is qualitative in nature where in careful and complete observation of selected films on certain parameters will be executed taking all the aspects angles of film appreciation.

- **Nature of Analysis: Technical and Visual Analysis**

  After observing all these 10 selected Indian films, the data will be analyzed on specific parameters to judge those aspects and angles.

- **Sample:**

  As the study is qualitative in nature, it is confined to observe selected 10 Indian films of 21st century which will portray the growth and development of Indian cinema using visual effects specifically. These 10 films will be observed on these parameters:

  - Computer Generated Imagery (CGI)
  - Motion Capture
  - Facial Capture to Motion Capture CGI
  - Virtual reality and Augmented reality (VR and AR)
  - Special Effects
    - Optical Effects
      - Multiple Exposures
      - Mattes
      - Optical printer
    - Mechanical effects
      - Mechanized props
      - Scenery
      - Scale models
      - Animatronics
      - Pyrotechnics
  - Digital Animation
  - Green Screening
  - Rotoscoping
  - Matte Painting

- **Work Plan**

As the proposed study is secondary data based, hence, the study will be conducted using library of The IIS University as well as surfing Digital Library www.iisu.refread.com.

The digital library of The IIS University has aggregated world class content from e-books, e-journals, videos, presentations, news all on one cloud platform; access to all the subscribed web resources. It is a single discovery interface which has integrated and provide article level search across all current and future subscribed journals & eBooks; from all publishers; a massive library of full-text web resources.

Visit e-libraries like:

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- **Observation Method:**

  Tools and Techniques:

  A. Film Screening

  - To conduct the proposed study, the researcher will watch all these 10 Indian films in a closet way on the basis of selected parameters and dimensions.

B. Electronic interviews

- The researcher will try to conduct special interviews with the directors of the specific films taken for the study.

- **Phasing of work**

Phases	**Time Duration**	**Research Work**
Phase -I	June- August 2018	Selection of Films to be observed and studied
Phase-II	September-February 2019	Chapter One and Two: Introduction to the study Review of Literature Theoretical Framework
Phase-III	March-August 2019	Chapter One and Two: Review of Literature Theoretical Framework Research Methodology
Phase-IV	September-November 2019	Review of Literature Viewing of Selected Films
Phase-V	December-May 2020	Chapter Three Review of Literature Theoretical Framework
Phase -VI	June-November 2020	Chapter Four and Five Analysis Report Writing

Facilities available at the place of work

The digital library of The IIS University has aggregated world class content from e-books, e-journals, videos, presentations, news all on one cloud platform; access to all the subscribed web resources. It is a single discovery interface which has integrated and provide article level search across all current and future subscribed journals & e-Books; from all publishers; a massive library of full-text web resources. The University has well equipped research laboratories with trained technicians and proper protocols to provide the necessary support base to the faculty and students involved in research work.

Limitations of study

For the purpose of this study, a total number of 10 selected films will be taken for the course of research. This study will be limited to visual analysis of 10 films on the basis of certain parameters which will help in observing these 10 films made by popular Indian filmmakers in a closet way. Each film will be observed very minutely taking all the aspects and angles suiting for analysis.

As the study, secondary database selected libraries and e-libraries will be referred.

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